pplicant:	Tricone Engineers, Inc.	Appl. No.:	SP-8/23

REFERRALS

	Date Referred	Comments Dated,	Date Referred	Comments Dated	Additional Reports
a. Municipal Engineer	5/13/24	6/24/24			
b. Professional Planner	5/13/24	7/15/24			
c. Traffic Consultant	5/13/24	7/15/24	-		
d. Construction Official	5/13/24	6/26/24			
e. Shade Tree Advisory Comm.	5/13/24	7/15/24	-		
f. Health Officer	5/13/24	5/30/24	0		
g. Tax Collector	5/13/24	5/13/24			
h. Public Safety	5/13/24	7/3/24			
i. Environ. Res. Committee	5/13/24	7/15/24			
j. Mercer County Planning Bd.		(<u></u>	5		4
k. Ewing-Law. Sewer Auth.					
IWater Co.					
m. D & R Canal Commission					
n. U.S. Post Office	<u> </u>	7			M. A
o. NJDOT		(Santonia de la companio de la compa	***************************************	-
p. PSE&G Co.		:	-		
q. Board of Education					Marine
r. Historic Preserv. Comm.			7		
s. NJDEPE/Wetlands			//	·	-
t. NJDEPE/Stream Encroach.			-	(7 	
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Township of Lawrence **ENGINEERING DEPARTMENT**

TO:

File

FROM:

James F. Parvesse, Municipal Engineer

SUBJECT:

Preliminary & Final Major Site Plan w/ Variance Application No. SP- 8/23

<u>Tricone Engineers, Inc.</u> Grovers Mill Road Tax Map Page 42.07, Block 4201.01, Lot 33.03

DATE:

June 24, 2024

General:

The applicant has requested preliminary and final site plan approval for construction of eighty-five (85) townhouse and apartment units on Block 4201.01, Lot 33.03. The property is located in the AT-3 zone with site access from Mall Access Road. Several variances and design exceptions have been requested or are required.

The site is zoned for residential use and is included in the Housing Element and Fair Share plan with a 20% set-aside for affordable units. However, the types of units proposed do not appear to be an efficient use of the buildable area. As currently designed, the site cannot accommodate a complete road network, stormwater management requirements and amenities for the expected population groups.

The primary issues are:

- 1. Site Layout The property is 6.86 acres; however, over 3 acres is encumbered with wetlands and wetlands transition areas. All buildings have been clustered in the westerly section of the tract with limited amenity areas, questionable ability for rear yard decks or patios, and retaining walls in the infiltration basins that requires several setback variances.
- 2. Rooftop Decks The architectural plans show use of the roof areas for decks on both the apartment buildings and townhouse units. Per §429.C of the Land Use Ordinance, decks are not typically permitted on any floor higher than the first floor. Additional discussion is warranted.
- 3. Stormwater Management Compliance with NJDEP 2023 Stormwater Regulations is required. Additional information is needed to verify the proposed design meets the requirements.

Detailed Report:

1.00 Site Layout

1.01 The current design includes two apartment buildings and four townhouse clusters. Wetlands and wetlands buffer areas are contained in the easterly section of the site so the proposed improvements are concentrated in the westerly part of the site. Due to the types of units selected, the site appears over-developed. The apartment buildings are a more efficient footprint with underground parking and three stories, providing more units on only a slightly larger area that a building of eight townhouse units. It is noted that site development is further constrained by new stormwater regulations which include rainfall intensities 20-30% higher to accommodate future projected flow. The unit types should be reconsidered.

The other site layout concerns include:

- a. The roadway in front of Building E is a dead-end aisle which is discouraged. There is no ability for trash, postal or delivery vehicles to turn around. In addition, the sidewalk is disconnected from the interior perimeter sidewalk.
- b. The buildable area of the property is located in the northwesterly section of the parcel. Both

apartment buildings rely on underground parking garages and parking spaces at the pool area to meet the required number of spaces.

Both apartment buildings also have rows of electric vehicle spaces that are not evenly distributed and may preclude an occupant's ability to find a parking space. In addition, exterior handicap parking spaces have not been provided. Testimony is required to clarify whether spaces are assigned and opportunities for overflow parking.

- c. The infiltration basins are located within the front yard setback adjacent to Grovers Mill Road, in violation of §522.F.2.a. In addition, the designs include high retaining walls, visible to Grovers Mill Road which do not comply with §522.F.3. The applicant's engineer should also review §522.F.4 and F.5 regarding basin design. Based on the limited buildable area, it appears that the basins have been forced into available space without considering the overall site design and the Land Use Ordinance. Compliance with the Land Use Ordinance will impact the layout.
- d. The amenities shown on the plan include a dog park, swimming pool and clubhouse. There are no features for children (such as a tot lot) or paths for walking/cycling with the exception of perimeter sidewalks. Based on the projected population groups, which will include families, it appears additional amenities should be provided.
- e. Typically, residents utilize concrete patios/decks at the rear of a townhouse dwelling for outside enjoyment, grills, recreation, etc. There are rear doors shown for Buildings B-E, but no concrete areas. Clarification shall be provided. If a standard patio will be installed, it shall be shown. For Building C, any patio would be directly adjacent to wetlands which is not practical for use and Building D units abut an infiltration basin. Patios for Buildings C and D would be restricted in size for some units.
- f. Public Safety shall evaluate access to building perimeters. It is typical to provide designated fire lanes/access on three sides of a multi-story building.

In consideration of comments 1.01 a-f, it appears that the usable site area has been overdesigned with improvements.

- 1.02 The Land Use Ordinance prohibits decks at elevations higher than the first floor. The rooftop decks shall be discussed to determine if a variance is required. In addition, it is typical to provide a 6' privacy screen if decks are within 5' of the property line or unit wall.
- 1.03 A pedestrian connection to Quaker Bridge Mall shall be provided if permitted by the owner. The plan currently shows sidewalk ending at the property line. A rectangular rapid flashing beacon and high visibility crosswalk shall be included.
- 1.04 The sight triangle area at the Grovers Mill Road/Mall Access Road intersection shall be evaluated with respect to the retaining wall in basin 1.
- 1.05 A Sustainable Design Assessment is required per §523 of the Land Use Ordinance.

2.00 Stormwater Management

- 2.01 Additional soil testing was completed in June 2024 which showed presence of mottling in several soil logs. The mottling elevation shall be used as the water table elevation in the stormwater design. This elevation revision will substantially impact the current basin configurations.
- 2.02 Cross sections through the basins shall be provided to verify proper separation from the water table.
- 2.03 The groundwater mounding analysis shall include the review of the lateral impact on the underground parking garage.

- 2.04 The calculations for basin 2 shall use the actual tested infiltration rate, divided by 2, not 10 in/hr.
- 2.05 A sump pump collector system is required for Building C.
- 2.06 Utility and landscaping conflicts with the underground infiltration chambers shown in front of Building B shall be evaluated.
- 2.07 An Operations and Maintenance Manual is required.
- 2.08 Designated basin maintenance access areas shall be provided.

The stormwater management design and facilities cannot be reviewed until the above items are provided. Further comments may be issued.

3.00 Grading

- 3.01 Driveway grading information shall be provided for each unit. A minimum slope of 1.5% is required with a maximum slope of 4.0% permitted.
- 3.02 The slope of the underground garage access driveway for Building A is over 10%, which is too steep. The slope shall be decreased to a maximum of 6%, compatible with local road standards.
- 3.03 The profiles on sheet C4.1 should include slopes and vertical curve information. Due to the 10' depth of excavation for profiles B and C, depth to groundwater shall be evaluated. Underdrains may be necessary.

4.00 Miscellaneous

- 4.01 All trash collection, including recycling, shall be contracted privately. The plans currently indicate curbside pickup, which is acceptable, but will not be under the Township's program.
- 4.02 The applicant shall indicate if there will be a centralized mail system, individual mailboxes, etc. Street names and addresses will be assigned by this office upon final design.
- 4.03 All construction details shall comply with Engineering Department Standard Details. The applicant's engineer shall review and revise as necessary.
- 4.04 A conservation easement shall be established at the wetlands transition area limit. A deed shall be recorded as a Land Use Restriction in the Mercer County Clerk's Office.
- 4.05 Other permits/approvals:
 - a. NJDEP
 - b. Mercer County Planning Board
 - c. Delaware and Raritan Canal Commission
 - d. Ewing Lawrence Sewerage Authority
 - e. NJ American Water
 - f. Public Safety Coordinating Committee
 - a. Lawrence Township Soil Disturbance (prior to construction)

JFP/irt

M:\Planning Board\Applications\Tricone Engineers SP 8.23\Review #1.doc

Documents Reviewed:

- Application No. Sp-8/23 and Supporting Documents
- Site Plans, revisions dated June 13, 2024
- Location & Topographic Survey, dated August 9, 2021
- Architectural Plans, dated March 7, 2024
- Traffic Impact Study, dated March 19, 2024 (Traffic Consultant only)
- Tree Report/Woodlot Appraisal, dated February 2024
- Environmental Impact Statement, dated March 19, 2024

- Community Impact Statement, dated April 2024 Stormwater Management Report, dated June 13, 2024 Soil Testing data, dated June 10, 2024



P.O. Box 236 2 East Broad Street, 2nd Floor Hopewell, NJ 08525 609-257-6705 (v) 609-374-9939 (f) info@kylemcmanus.com

To:

Lawrence Township Planning Board

From:

Elizabeth McManus, PP, AICP, LEED AP

Brett Harris, AICP

Re:

Tricone

Preliminary and Final Major Site Plan

Block 4201.01 Lot 33.03

Grover's Mill Road & Mall Access Road

AT-4 (Apartment and Townhouse 4) Zoning District

Date:

July 15, 2024

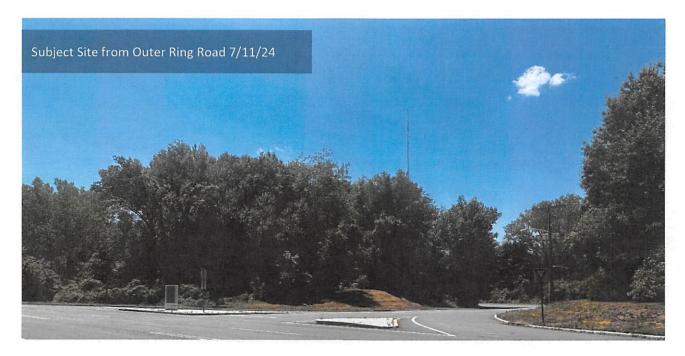
1.0 Introduction & Project Description

- 1.1 The Applicant is requesting Preliminary and Final Major Site Plan approval for an inclusionary development on Block 4201.01 Lot 33.01. The site is a 6.86-acre irregular shaped corner lot adjacent to Quakerbridge Mall in the Highway Commercial (HC) District with an Apartment and Townhouse 3 (AT-3) Zoning Overlay.
- 1.2 There are no existing improvements on the site. It is currently wooded and vacant. The property is almost entirely surrounded by roads, with Outer Ring Road to the north, Mall Access Road to the west, and Grover's Mill Road to the south.
- 1.3 The Applicant proposes to construct an 85 dwelling unit residential development consisting of townhomes and two multifamily buildings. Of the proposed dwelling units, 31 are townhome units and 54 are apartment units. Additional site improvements include a pool, pool house, associated parking, stormwater, lighting, and landscaping improvements.
- 1.4 Of the 85 proposed units, 17 are affordable housing units (a 20% set-aside), consistent with the AT-3 Overlay District Standards. The subject property is identified as an Unmeet Need mechanism in the Township's Housing Element and Fair Share Plan.

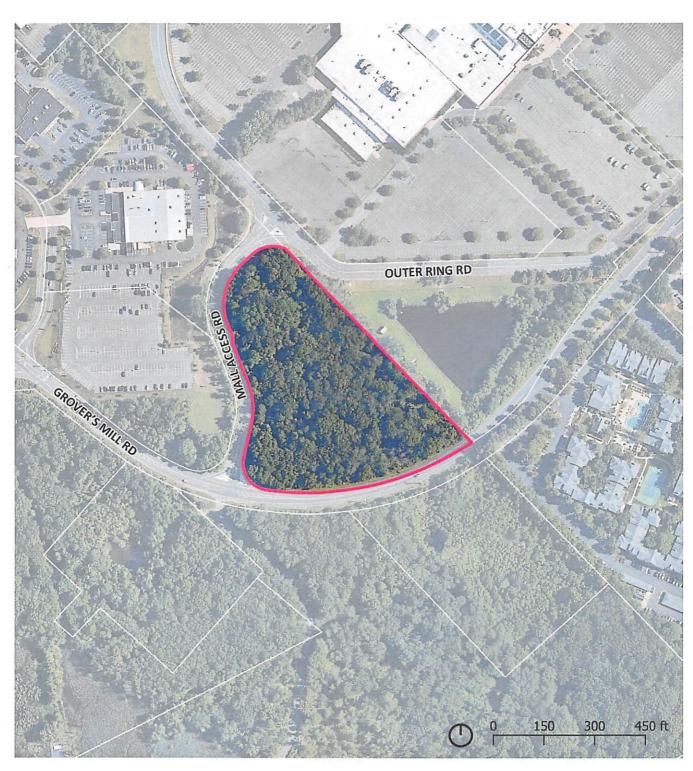


2.0 Site & Surrounding Area

- 2.1 The site is vacant and wooded, with a significant amount of frontage on Mall Access Road, and Grover's Mill Road. There are significant grade changes throughout the site; along Mall Access Drive the grade changes by more than 20 feet going south towards Grover's Mill Road. There are significant wetlands and a flood hazard area located in the eastern area adjacent to Grovers Mill Road.
- 2.2 The site is located within the Highway Commercial (HC) District with an Apartment and Townhouse 3 (AT-3) Zoning Overlay.



- 2.3 The site's surrounding area is predominately commercial with Quakerbridge Mall to the north in the RC District and other car oriented commercial uses to the west in the HC District.
- 2.4 To the east is a detention basin associated with the Mall, and further east along Grover's Mill Road is a multifamily residential development known as the Artisan at Lawrenceville in the MX-1 District.
- 2.5 To the south of the subject site are wooded areas, similar to what currently exists on the subject site.





TRICONE ENGINEERS

BLOCK 4201.01 LOT 33.03 TOWNSHIP OF LAWRENCE MERCER COUNTY NJ

DATA SOURCE: Aerial Imagery, Google Earth 2021; NJGIN Mercer County Parcels 2023



3.0 AT-3 Zoning District Standards

- 3.1 The subject site is located within the Highway Commercial (HC) District with an Apartment and Townhouse 3 (AT-3) Zoning Overlay. The AT-3 Overlay District permits dwellings in apartments and townhomes. Permitted accessory uses include home occupations, community centers, outdoor recreation facilities, and off-street parking and private garages. The full list of permitted principal and accessory uses in the district can be found in §409 in the Township's Land Use Ordinance. The Applicant's proposal is permitted in the District.
- 3.2 The Application requires bulk variance relief from the AT-3 Overlay District standards. Please see the following table for additional detail.

AT-3 District Standards (§409)				
	Required	Existing	Proposed	Variance?
Min. Gross Tract Area	10 acres	N/A	6.86-acres	*Yes
Min. Buildable Area	7 acres	N/A	3.73 acres	Yes
Max. Gross Density	15 units/acre	N/A	12.39 units/acre	No
Min. Open Space	30%	N/A	45.8%	No
Min. Lot Frontage	300 feet	N/A	1,200 feet	No
Min. Building Setback from tract perimeter	50 feet	N/A	25 feet	Yes
Max. Units per Building (Townhouse)	8 units	N/A	8 units	No
Max. Units per Building (Apartment)	24 units	N/A	30 units	Yes
Min. Distance between Buildings (front/back)	50 feet	N/A	50 feet	No
Min. Distance between Buildings (side)	30 feet	N/A	30.5 feet	No
Min. Distance between Buildings (building/parking)	15 feet	N/A	9 feet	Yes
Max. Building Height	3 stories / 38 feet	N/A	42.38 feet	** Yes
Max. Building Length	240 feet	N/A	215 feet	No



AT-3 District Standards (§409)				
	Required	Existing	Proposed	Variance?
Min. Townhouse width	20 feet	N/A	24 feet	No
Min. Apartment Size	550 sf	N/A	690 sf	No
Min. Storage Area (Townhouse)	300 sf	N/A	300 sf	No
Min. Storage Area (Apartment)	100 sf	N/A	89.7 sf	Yes
Min. Accessory Structure Setback	5 feet	N/A	142 sf	No
Min. Required COAH Units	20% of all units	N/A	17 units	No

^{*} Indicates Existing Non-Conformity

4.0 General Comments

4.1 The site has been within the HC district for decades, adjacent to the RC (Regional Commercial) district and, recently as part of the Township's third round housing plan, is subject to an overlay district that permits inclusionary development. The site is wooded with significant wetlands and flood hazard area located in the eastern area adjacent to Grovers Mill Road and the detention basin associated with Quaker Bridge Mall. Additionally, topography ranges by more than 20 feet across the site.

The site's zoning reflects long-standing policies for economic development in this area of the Township. The addition of residential development on the property not only reflects the Township's need to provide affordable housing, but also downward trends of retail and commercial demand across the State.

Notwithstanding the need for compliance with the Township's affordable housing plan and economic supportive policies, the site's design should be revised to improve its internal and external appearance and its function.

- a. The primary view of the site at the corner of Grover's Mill and Mall Access Road will be a stormwater basin which has a retaining wall as high as 9 feet facing Grovers Mill Road, and no plantings within the basin or to screen its view. This basin is just a few feet from Building F, which means residents of the building will also have the view of the basin and road with no screening. Additionally, the basin appears less than 10 feet in some areas to Grovers Mill Road.
- b. The stormwater basin in the center of the site, which has retaining walls of approximately 5 feet

^{**}Applicant must confirm the proposed building height does not exceed the permitted height by 10%, otherwise a "d" variance is required.



- in height, is unplanted and largely unscreened from surrounding residents despite its setback of approximately 10 feet to Building E.
- c. The basin proposed for the northeast corner of the site will be screened with a double row of arborvitae trees. These trees will create a good visual screen of the basin and Building A. However, the need to screen the basin is only necessitated by the approximate 10 foot setback to Mall Access Road, lack of plantings within basin and the retaining walls of up to 8 feet.

Given the reasons outlined above, and the fact that over 900 trees are proposed to be removed, the site plan should be revised to provide additional plantings on the site. Plantings should be provided with a naturalized design within and/or around the basins, and the setbacks of the basins to buildings on the site and the adjacent roads should be increased to reduce visual impacts.

5.0 Site Plan Comments

- 5.1 Testimony should be provided regarding how mail and deliveries will be handled, particularly for the multifamily residential buildings. This should include whether a mail room is provided and whether parking for delivery vehicles is proposed.
- 5.2 Testimony should be provided regarding moving in/out of residents. This should include whether moving truck sizes will be limited.
- 5.3 It appears trash and recycling will be handled through trash compactors for the multifamily buildings and privately for the townhome units, confirmation should be provided regarding trash/recycling management.
- 5.4 The Applicant has not indicated any signage is proposed. If signage is proposed, full sign details, including colors and materials, sign letter height, location, and method of illumination should be provided. The sign colors and materials should be complementary to the building architecture.
- 5.5 The outdoor areas for the townhomes should be depicted on the plans, including but limited to any fencing, patio, or landscaping. The zoning table notes compliance with the required outdoor area, however compliance should be demonstrated on the plans.
- 5.6 A chain link fence is depicted around the pool. Given the high visibility of this area, a decorative fence should be proposed.
- 5.7 Clarification is required regarding the proposed infiltration basins. The bottom of the basin is noted with a dotted symbology, however the symbology it is not identified on the Plans. The proposed material or groundcover of the bottom of the basins should be identified.
- 5.8 It appears an incorrect building height is depicted on the Zoning Summary Table on the Site Plans. This should be corrected.



6.0 Parking & Circulation

- 6.1 The applicant should eliminate the dead-end serving the townhouses along Mall Access Road. The dead-end provides no turnaround for those seeking parking that is not available. The road should be extended to connect to the site's internal circulation system.
- A shoulder that can accommodate bicycles is located on Grover's Mill Road and the road is noted as a proposed bike route in the Township's 2020 Circulation Plan. Safe bicycle access along Mall Access Road, well as along Outer Ring Road, would enhance safe and convenient bicycle access to this major Township service, employment, and entertainment venue.
- 6.3 A bike rack should be added to the pool area.
- 6.4 The color of the proposed bike racks should be specified and should complement the building architecture.
- The Applicant should enhance pedestrian circulation. This site is adjacent to Quakerbridge Mall, which offers services, retail, employment, and bus access. It is also proximate to residences along and accessible to Grovers Mill Road, as well as retail, services, and employment along Quakerbridge Road. Grovers Mill Road and Mall Access Road act as important connections, as evidenced during a site visit where several pedestrians were seen walking up Mall Access Road towards Quaker Bridge Mall. The following should be incorporated to enhance pedestrian connectivity:
 - a) Crosswalks across the site's access drives.
 - A crosswalk across Outer Ring Road to the northeast connecting to the Quakerbridge Mall.
 - c) Crosswalks across Mall Access Road, at its intersection with Outer Ring Road.
 - d) A crosswalk to the southeast across Grovers Mill Road connecting to the existing residential development. This is particularly important since a sidewalk along the western side of Grovers Mill Road can extend for a limited distance before the area which contains the sidewalk becomes too narrow to accommodate pedestrians.

7.0 Buffer Requirements & Landscape Design

- 7.1 The Tree Removal Plan (C2.10) and the Grovers Mill Tree Report should be updated to be consistent with one another. The Tree Removal Plan (C2.10) notes 930 trees to be removed, while the Grovers Mill Tree Report notes 585 trees are to be removed.
- 7.2 Additional detail regarding the proposed tree replacement is required, compliance with the replanting requirements in §541H should be demonstrated.
- 7.3 Tree protection fencing should be depicted at the limit of the grading/clearing adjacent to the trees that are to be preserved. There are opportunities for additional tree planting on the site that should be utilized.



- 7.4 Per §525.C.2, street trees are required to be planted every 40 feet. No street trees have been provided along Grovers Mill Road. We suggest street trees along Grovers Mill Road and Mall Access Drive where disturbance is proposed. Generally, more trees should be provided on the site given the significant proposed tree removal, and the high visibility of the site due to the existing slopes and location.
- 7.5 Per §525H. Table 5.10 the Ordinance requires a 25-foot buffer between Residential Type B and Retail Uses, along the northern and eastern property lines. Compliance with the buffer standards outlined in the Ordinance should be demonstrated, and the buffer areas on the Site Plan should be clearly depicted. It appears the buffer is undersized.
- 7.6 Per §522F2.a, the Ordinance states any stormwater basin in a residential zoning district shall be located within the setbacks for a principal building. A 50-foot setback is required from the tract boundary, whereas infiltration basin #2 has a setback of less than 5 feet from the western property line and infiltration basin #3 has a setback of approximately 10 feet from western property line. Per §522F2.b, no stormwater management basin shall be located in a required landscape buffer, and proposed infiltration basins #2 and #3 are located within the 25-foot Retail to Residential Type B buffer.
- 7.7 Lawn is proposed for the majority of the dog park. Testimony should be provided regarding the proposed groundcover of the dog park and should include the longevity of the lawn as it relates to the dog park use.
- 7.8 The applicant should redesign the space between Buildings D and E. This area may have outdoor areas (see comment 5.5) that should be depicted; however, regardless there is opportunity for the addition of trees and perhaps areas for outdoor enjoyment.

8.0 Lighting

- 8.1 The Lighting Plan does not provide sufficient information regarding the proposed site lighting. The following should be incorporated into an updated Lighting Plan:
 - a. Footcandle values should be depicted to the property line to determine light spillage onto adjacent properties.
 - b. Additional information regarding illumination of pedestrian areas should be provided and conformance with Table 5.13 and Table 5.14 in §527C and §527D should be demonstrated.
 - c. The Applicant should indicate if lighting is proposed for the pool or the dog park. It seems that lighting in these areas may be necessary to ensure they are usable during winter evenings and early mornings.
 - d. Compliance with dark sky standards should be demonstrated for all the proposed fixtures.



9.0 Architecture

- **9.1** The Architecture Plans provided are difficult to depict. Updated architecture plans with improved legibility should be provided.
- 9.2 Clarification is required regarding the proposed building height, if 42.38 feet is proposed, a "d" variance is required.
- 9.3 The applicant proposes one two-car garage door of roughly 18 feet in width along the frontage of each townhouse, as well as a front door. The front door will occupy roughly 5 feet of the front façade and will be set back roughly 5 feet. The result of this design is the garage doors will be the primary view of this development, not only from the interior roads but also from the Mall Access Road.
 - A revised design with the front doors not setback from the façade, two individual garage doors, a singlecar garage, additional architectural elements highlighting the front door, and/or other design changes should be considered in order to improve the appearance of the development.
- 9.4 The Applicant appears to be compliant with the minimum apartment size and balcony size defined in the AT-3 standards. Additional detail, including the area calculation of the individual units and balconies, should be depicted to confirm compliance.
- 9.5 Testimony should be provided regarding the proposed building architecture and its conformance with the design standards outlined in §531. Testimony should include the architectural character of the existing area and how the proposed development relates.
- 9.6 Building elevations, depicting all colors and materials, for each side of the proposed residential buildings and pool house should be provided.

10.0 Affordable Housing

- 10.1 Per §409E., 20% of all units shall be affordable to households of low and moderate income. The Applicant is proposing 17 affordable units, which is compliant with the required set aside.
- 10.2 The Applicant should provide additional information on the integration of the 17 affordable housing units, with the market rate units. The Community Impact Statement states the 17 affordable units will be forsale and located in the two multifamily buildings, confirmation should be provided. The submitted Architecture Plans should identify the affordable units and the units should be integrated throughout the development.
- 10.3 The Architecture Plans depict a bedroom distribution of 4 one-bedroom, 12 two-bedroom, and 2 three-bedroom units. The Applicant should update the proposed distribution to be complaint with the required bedroom distribution, and should update the chart to be accurate, as it currently depicts 18 affordable units. For 17 affordable units, UHAC requires a maximum of 3 one-bedroom units, a minimum of 6 two-bedroom units, and a minimum of 4 three-bedroom units.



- 10.4 The affordable units must meet all other applicable affordable housing regulations, such as but not limited to, income distribution, bedroom distribution, phasing, affirmative marketing, and affordability controls. The Applicant should provide testimony regarding the proposed affordable housing compliance for the previously listed items. I recommend such compliance as a condition of approval and that the developer be further obligated to engage the Borough's Affordable Housing Administrator for administration of the affordable units, at the sole cost of the developer.
- 10.5 The 2024 Amendment to the NJ Fair Housing Act states that NJ HMFA shall update the Uniform Housing Affordability Control Rules to require 40 year affordability controls for affordable rental units and 30 years for affordable sale units. These rules are required to be updated within 9 months of the Amendment's adoption, approximately October 9, 2024. The developer may be required to apply 40 year affordability controls depending on when the project receives approval and how UHAC is amended for applicability.

11.0 Land Use Policy

- **11.1** See also Section 4.0 General Comments, herein.
- 11.2 The subject site is included in the Township's Third Round Housing Plan, as well as its Settlement Agreement with FSHC, as an unmet need mechanism. Development of the site is consistent with the Township's Court-approved affordable housing compliance plan.
- 11.3 The Applicant should provide testimony regarding the conformance with the Township's land use policy as outlined in the 1995 Master Plan, and subsequent reexamination reports, the various Master Plan Elements, and the Township's Land Use Ordinance.
- 11.4 The Township's 1995 Master Plan defines the following goal:

"Preserve and enhance the character of the built environment through the promotion of good design."

11.5 The Township's 1995 Master Plan defines the following objective under the Community Character Goal:

"Encourage new development to be compatible with the style and scale of existing buildings."

11.6 The Township's 1995 Master Plan defines the following Land Use Goal:

"Foster a well-balanced, diverse community with a mix of residential housing types institutional, commercial, and limited industrial uses along with ample open space and public facilities. The land use plan and development regulations are designed to minimize land use conflicts and to reduce adverse impacts of development on other activities in the Township."

11.7 The Township's 1995 Master Plan defines the following objectives under the Land Use Goal:



"Direct new development and redevelopment to places in relation to their transportation and environmental capacities."

11.8 The Township's 1995 Master Plan defines the following Housing Goal:

"Preserve the existing housing stock and provide the opportunity for the development of a wide variety of housing types to meet the needs of varied income and age levels, family compositions, and lifestyles."

And the following Objective:

"Provide through the Township's land development regulations, for a wide variety of housing types including adequate living space for all persons sufficient land for each dwelling units to meet the needs of current and future residents of Lawrence."

12.0 Materials Reviewed

- 12.1 Application and supporting documents.
- **12.2** *Preliminary and Final Site Plan Residential Development* consisting of 16 sheets, prepared by Bertin Engineering, dated October 12, 2023, last revised June 13, 2024.
- 12.3 Architecture Plans, consisting of 19 sheets, prepared by Zimbler Architecture, undated.

13.0 Applicant Team

- 13.1 Applicant: Tricone
- 13.2 Owner: Same as Applicant
- 13.3 Attorney: Walter Toto Esq. 317 Forsgate Dr. Monroe Township NJ 08831 (732)656-770 walter@waltertotolaw.com
- 13.4 Engineer: Calisto Bertin Bertin Engineering 66 Glen Avenue Glen Roack NJ 07452 (2010670-6688 cbertin@bertineingeering.com

SURINDER S. ARORA, PE President

ARORA and ASSOCIATES, P.C.

Consulting Engineers

Princeton Pike Corporate Center 1200 Lenox Drive, Suite 200, Lawrenceville, NJ 08648 (609) 844-1111 • Fax (609) 844-9799 www.arorapc.com

MEMORANDUM

DATE:

July 15, 2024

TO:

Lawrence Township Planning Board

FROM:

Quazi Masood, P.E., PTOE (Tel: 646-933-0014) QM

William T. Dougherty, PE, PTOE WTD

Traffic Consultants

SUBJECT:

Grovers Mill Residences, Grovers Mill Road & Mall Access Drive

Preliminary & Final Major Site Plan, SP-8/23

Planning Board Memorandum #1

Lawrence Township, Mercer County, New Jersey Tax Map page 42.07, Block 4201; Lot: 33.03

Document Received

We are in receipt of the following information electronically for review:

- One Lawrence Township Planning Board Transmittal Memo for SP-8/23 (1 page) prepared by James Parvesse dated May 13, 2024, with Reports due Friday July 5, 2024
- One Transmittal Letter (1 page) prepared by Walter Toto, Esq. dated April 30, 2024
- One copy of the Application (6 pages) prepared by Tricone Engineering dated November 22, 2023
- One set of Preliminary/Final Major Site Plans (16 Sheets) prepared by Bertin Engineering, Inc., dated October 12, 2023 last revised March 19, 2024
- One set of Architectural Plans (19 sheets) prepared by Zimbler Architecture dated March 7, 2024
- One copy of Location and Topographic Survey (1 sheet) prepared by Bertin Engineering, Inc. dated August 9, 2021, last revised June 16, 2022
- One copy of the Traffic Impact Study (34 pages) prepared by Bertin Engineering, Inc. dated March 19, 2024
- One copy of the Tree Report/Woodlot Appraisal (13 pages) prepared by Zig Panek, Licensed Tree Expert #364 dated February 2024
- One copy of the Environmental Impact Statement (27 pages) prepared by Bertin Engineering, Inc, dated March 19, 2024
- One copy of the Community Impact Statement (53 pages) prepared by Mark A. Remsa, PP, LLA, AICP, ASLA dated April 2024
- One copy of the Soil Testing Data Report (17 pages) prepared by Wham Engineering Services, Inc. dated May 5, 2023
- Stormwater Drainage Analysis Report (95 pages) prepared by Bertin Engineering, Inc. dated October 12, 2023, last revised March 19, 2024
- One revised Lawrence Township Planning Board Screening Committee Transmittal Memo for SP-8/23 (1 page) prepared by James Parvesse dated June 20, 2024, with Reports due Monday July 15, 2024
- One set of Revised Preliminary/Final Major Site Plans (16 Sheets) prepared by Bertin Engineering, Inc., dated October 12, 2023, last revised June 13, 2024

Preliminary & Final Major Site Plan SP-8/23 Grovers Mill Residences/Tricone Engineering Planning Board Memo #1 Lawrence Township, Mercer County, New Jersey July 15 2024 Page 2 of 4



Project Description

According to the Environmental Impact Statement, "the site is located at the northeast corner of the intersection of Grovers Mill Road and Mall Access Drive in Lawrence Township, New Jersey. The lot is 6.86 acres in size and currently wooded and contains wetlands along Grovers Mill Road. There is evidence that the site was disturbed during the construction of the neighboring Quaker Bridge Mall. In 2000, site plan approval was granted for the Mariott Towne Plan Suites Hotel on the property.

The application proposes constructing six (6) multi-family buildings consisting of four (4) townhouse buildings (Buildings B, C, D & E) and two (2) apartment buildings (Buildings A & F) and a pool house. Townhouse buildings B, C & D will consist of eight (8) units each and Building E will consist of seven (7) units, for a total of 31 townhouse units, including 25 4-bedroom units and 6 3-bedroom units. Apartment Building A will contain nine (9) 1-bedroom apartments and fifteen (15) 2-bedroom apartments for a total of 24 units. Building F will contain six (6) 1-bedroom apartments and twenty-one (21) 2-bedroom apartments and three (3) 3-bedroom apartments for a total of 30 units. In all there will be 31 3-bedroom townhouses, 15 1-bedroom apartments, 36 2-bedroom apartment and 3 3-bedroom apartments yieldings 85 dwellings.

An amenity area is proposed in the center of the site consisting of a swimming pool, pool house, barbeque area and dog run. An open lawn area is located directly adjacent to these features to provide a wide variety of recreational opportunities for the residents.

There are two access driveways from Mall Access Drive that provide continuous circulation through the site. Each townhouse has a two-car garage and driveway, which accounts for three private parking spaces per NJ Residential Site Improvement Standards. The apartment buildings have garage parking and site parking totaling 105 shared parking spaces. Electric Vehicle charging stations are also proposed.

New pedestrian sidewalks are proposed along the Grovers Mill Road and Mall Access Drive frontages where none currently exist. Sidewalk access is provided from the street through the site.

The on-site wetlands areas will remain undisturbed. Due to the shape of the wetland, it is necessary to disturb a portion of the 50-foot-wide wetland transition area (buffer). This will require approval by the NJ Department of Environmental Protection."

According to the Lawrence Township Zoning Maps, the site is located in the Highway Commercial (HC) Zone, but also in a section with the Apartment and Townhouse (AT) Residential overlay (HC/AT-3).

Review Comments

We have completed our review of the above-referenced documentation and offer the following comments:

On Drawing C1.1, when computing required parking, all fractional spaces should be rounded to the
next whole space. The overall EVSE and ADA parking layout should be revised to ensure proper
distribution for every building. For example, for Building #F, eight EVSE spaces are assigned, but
no ADA surface spaces are provided in front of that building. We recommend reallocating few of

Preliminary & Final Major Site Plan SP-8/23 Grovers Mill Residences/Tricone Engineering Planning Board Memo #1 Lawrence Township, Mercer County, New Jersey July 15 2024 Page 3 of 4

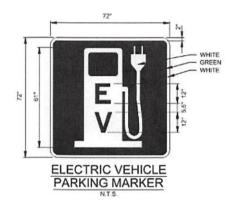


those EVSE spaces from that location to the parking garage underneath Building #F and designate those EVSE spaces as surface ADA spaces.

- 2. The ADA spaces do not distinguish the van-accessible and are car-accessible, which must be classified in the revised plan set
- 3. The ADA signs shown on sheet C2.1 are labeled incorrectly, which must be corrected. Moreover, the mounting order of those signs should also be shown correctly. The R7-8 sign (ADA Accessible Reserved Parking Sign) should be mounted at the top, R7-8aP (Van Accessible Plaque) in the middle (when used) and R(NJ)7-8A New Jersey Penalty Plate at the bottom.
- 4. Please use the MUTCD Standard sign and PANYNJ Standard pavement marking symbol as shown below for the Electric Vehicle Supply/Service Equipment spaces.



D9-11b Electric Vehicle Charging



- 5. Please include all pavement markings, such as, Stop bars, pedestrian crosswalks in the updated plan set on sheet C3.1.
- 6. Please use the ladder type NJDOT standard crosswalk and make them at least 8' or 10' minimum width in the revised plan set.
- 7. The vehicle circulation paths throughout the site for three different vehicle types: (a) Lawrence Township fire trucks, (b) trash removal and (c) delivery circulation using a SU-30 should be provided for review/approval.
- 8. The Stop sign shown at the southern right-in-right-out driveway (sheet C2.1) is mounted incorrectly underneath the R3-2 sign. The Stop sign is always mounted at the top of all mounted signs.

Preliminary & Final Major Site Plan SP-8/23 Grovers Mill Residences/Tricone Engineering Planning Board Memo #1 Lawrence Township, Mercer County, New Jersey July 15 2024 Page 4 of 4



- 9. The Traffic Impact Study (TIS) was developed based on incorrect calculation of the site generated trips. Details are described below:
 - a. The TIS incorrectly assumed 'AM/PM Peak Hour Generator' category to calculate the site generated trips. In the Traffic Engineering practice, to calculate the site generated traffic for any TIS, the assumption should always be to use the 'Peak Hour of Adjacent Street Traffic' category, not the 'Peak Hour Generator' category. The peak demand for Peak Hour Generator may not overlap at the same time with the Adjacent Street Peak Hour. As such, the calculated site generated traffic using the 'Peak Hour Generator' category will be inaccurate. The purpose of the TIS is to evaluate the operating conditions of the Adjacent Street Traffic during the peak hour condition for the proposed project. It is to be noted that our calculation shows the 'Peak Hour of Adjacent Street' category results much higher site generated traffic during both AM/PM peak hours compared to the numbers shown in Section 8.1 of the TIS.
 - b. The TIS assumes incorrect setting/location: Dense Multi-Use Urban while calculating the site generated traffic. The correct setting/location should be General Urban/Suburban.
 - c. Accurate AM/PM peak hour directional distribution (% entering, % exiting, Land Use Code 220) for 'Peak Hour of Adjacent Street Traffic' should be used in the TIS to calculate the site traffic distributions.
- 10. The future year 2028 Build Alternative intersection operational analysis results (i.e. LOS and delay) should be revised to reflect the re-calculated site generated traffic demand.

This completes our comments. Additional comments may be provided as this project moves forward.

CC: Jim Parvese, P.E. Brenda Kraemer, PE Susan Snook

TOWNSHIP OF LAWRENCE Division of Planning and Redevelopment

TO:

Brenda Kraemer, Assistant Municipal Engineer Elizabeth McManus, Planning Consultant Edwin W. Schmierer, Planning Board Attorney

Quazi Masood, Traffic Consultant James DeForte, Construction Official

Edward Tencza, Public Safety Coordinating Committee

Environmental Resources Committee Shade Tree Advisory Committee Keith Levine, Health Officer

FROM:

James F. Parvesse, Municipal Engineer

SUBJECT:

Preliminary & Final Major Site Plan w/ Variance Application No. SP- 8/23

<u>Tricone Engineers, Inc.</u> Grovers Mill Road Tax Map Page 42.07, Block 4201.01, Lot 33.03

DATE:

May 13, 2024

Attached are the documents listed below with regard to the referenced site plan application:

- Application No. SP-8/23 and Supporting Documents
- Site Plans, revisions dated March 19, 2024
- Location & Topographic Survey, dated August 9, 2021
- Architectural Plans, dated March 7, 2024
- Traffic Impact Study, dated March 19, 2024
- Tree ReportWoodlot Appraisal, dated February 2024
- Environmental Impact Statement, dated March 19, 2024
- Community Impact Statement, dated April 2024
- Stormwater Management Report, dated July 24, 2023 (Engineer & Environmental Resources only)

This application is scheduled for review by the Planning Board at the meeting to be held Monday, July 15, 2024. Please review these documents and submit your report to this office as soon as possible, but no later than July 5, 2024, so that reports may be provided to the applicant and Board members prior to the meeting.

JRT
M:Planning Board'Applications\Tricone Engineers SP 8.23\Distribution Letter.doc
Attachments

No Fire Comments 5/14/24 got No Fire Comments 05/15/2004 8M No Building Comments 5-15-24 MC No Electric Comments 5/15/2024 Dol

TOWNSHIP OF LAWRENCE

Division of Planning and Redevelopment

TO:

Brenda Kraemer, Assistant Municipal Engineer

Elizabeth McManus, Planning Consultant Edwin W. Schmierer, Planning Board Attorney

Quazi Masood, Traffic Consultant James DeForte, Construction Official

Edward Tencza, Public Safety Coordinating Committee

Environmental Resources Committee Shade Tree Advisory Committee Keith Levine, Health Officer

FROM:

James F. Parvesse, Municipal Engineer

SUBJECT:

Preliminary & Final Major Site Plan w/ Variance Application No. SP- 8/23

Tricone Engineers, Inc. Grovers Mill Road
Tax Map Page 42.07, Block 4201.01, Lot 33.03

DATE:

June 20, 2024

Attached are revised documents listed below with regard to the above referenced site plan application:

- Site Plans, revisions dated June 13, 2024
- Stormwater Management Report, dated June 13, 2024 (Engineer & Environmental Resources only)
- Soil Testing data, dated June 10, 2024 (Engineer & Environmental Resources only)

This application is being re-scheduled for review by the Planning Board Screening Committee meeting to be held Thursday, July 25, 2024 at 4:00 p.m. Please review these documents and submit your report to this office as soon as possible, but **no later than July 15, 2024**, so that reports may be provided to the applicant and Board members prior to the meeting.

JRT
M:Planning Board\Applications\Tricone Engineers SP 8.23\Distribution Letter #2.doc
Attachments

No Rlbg Comments Jo 06 p5 p 804 No Fore comments 89 6-25-24 No Builders comments Afa 6/26/24 No Blectmen Comments Del JUN 2 1 2024

LAWRENCE TOWNS
INSPECTIONS

TOWNSHIP OF LAWRENCE

P.O. Box 6006 Lawrenceville, New Jersey 08648

JUL 15 2024

Department of Community Development 609-844-7087

ENGINEERING DEPT.

REPORT

Lawrence Township Shade Tree Advisory Committee

Grovers Mill Road Proposed Development

The proposed development on Grovers Mill Road was reviewed by STAC. We <u>oppose</u> the intensity of this development, which proposes to remove 930 trees and replace only 81, near Rt 1 and Quakerbridge Road.

- This proposal moves Lawrence Township in a bad direction. Warm Summer days have turned into sweltering nightmares in Lawrence. More trees should be incorporated into development proposals, to provide cooling. Solar panels should be incorporated into the roof design.
- The % of impermeable surface in the Rt 1 and Quakerbridge Road area roof and parking asphalt -- already exceeds any reasonable %. The amount of impermeable asphalt surface and runoff needs to reduced. This area of the Township already has flooding concerns. Trees and green open space provide a buffer against flooding, & provide cooling.
- A design that is similar to the local Toll Brothers development -- uphill from Lawrenceville -- would reduce the number of parking spaces and allow for additional shade trees to be planted. A two-story design would be less of a burden on providing municipal fire and school services and could provide a somewhat more leafy environment. There are no volunteer fire stations or schools in this area. A four-story fire is no joke. Will these multi-story units be protected with water sprinklers? Possibly space for a fire station or school can be included on-site for intense developments.
- Continuous shaded sidewalks should be incorporated into the design so
 that an onsite walking exercise program can be available to residents.
 Also, a common open exercise space with a border of shade trees can be
 incorporated into the design if the intensity of the development is reduced
 with a design for two story buildings, and fewer parking spaces.

-- Respectfully submitted, David Bosted, STAC Chair

LAWRENCE TOWNSHIP HEALTH DEPARTMENT 2207 Lawrenceville Road - Box 6006 - Lawrenceville, New Jersey 08648 RECEIVED Telephone: (609) 844-7089

MAY 3 0 2024

Date:	May 30, 2024	
To:	James Parvesse, P.E., Municipal Engineer,	ENGINEERING DEPT.
From:	Keith Levine	
X	OR: Building Permit Certificate of Occupancy Planning Board Zoning Board Other:	Food Establishment Sewage Disposal System Individual Water Supply Commercial Property Other:
PROJECT	NAME: Grovers Mill Rd Residential Prelim and Fina	l Site Plan
LOCATION:	Grovers Mill Rd @ Mall Access Rd	
BLOCK:	4201.01 LOT # 33.03	PR# NA
OWNER:	Tricone Engineers, Inc. Phone:	732-904-3973
ENGINEER	ARCHITECT: Calisto Bertin, PE - Bertin Engineering	1
ADDRESS:	66 Glen Ave. Glen Rock, NJ 07452 APPROVAL X DISAPPROVAL	PHONE: 201-670-6688 APPROVAL WITH CONDITIONS
NJAW indicated i	S: artment review of the pool design will be required. atted they would provide potable water contingent upon review of a valed that they have capacity but applicant must comply with their 1/1 provals from NJAW and ELSA.	water main extension design. 6/2024 sewer ban requirements.
A trash dum	provais from NJAVV and ELSA. specific representation in the second second in the second second in the second second in the second second in the second in t	uirements at \$538 is required.
The Health vermin and	Department has found that curbside trashbag pickup in residential a vulture problems. Provide additional information regarding handling	apartment developments leads to
We are con Provide add access, pick	 cerned that there may be insufficient garbage truck access to the applicational information regarding trash disposal locations at the apartment of the control of the control	partment building trash rooms.
Construction	nclosure for each apartment building's trash/recycling containers. n and operational activities shall be in accordance with the Lawrence anti-idling regulations.	e Township Noise Ordinance

Township of Lawrence ENGINEERING DEPARTMENT

TO:

Susan McCloskey, Tax Collector

FROM:

Jennifer Thomas, Account Clerk

SUBJECT:

Verification of Current Tax and Sewer Payment Status

DATE:

May 13, 2024

Please update the status of taxes and sewer payments with regard to the following application:

Application No(s):

SP-8/23

Application Name:

Tricone Engineers, Inc.

Street Address:

Grovers Mill Road

Tax Map Page(s):

42.07

Block:

4201.01

Lot(s):

33.03

Thank you for your anticipated assistance and response.

JRT

g:\engineering\tax request.doc

1ST + 2nd Qtr taxes past due. Please see attached. Thank you!



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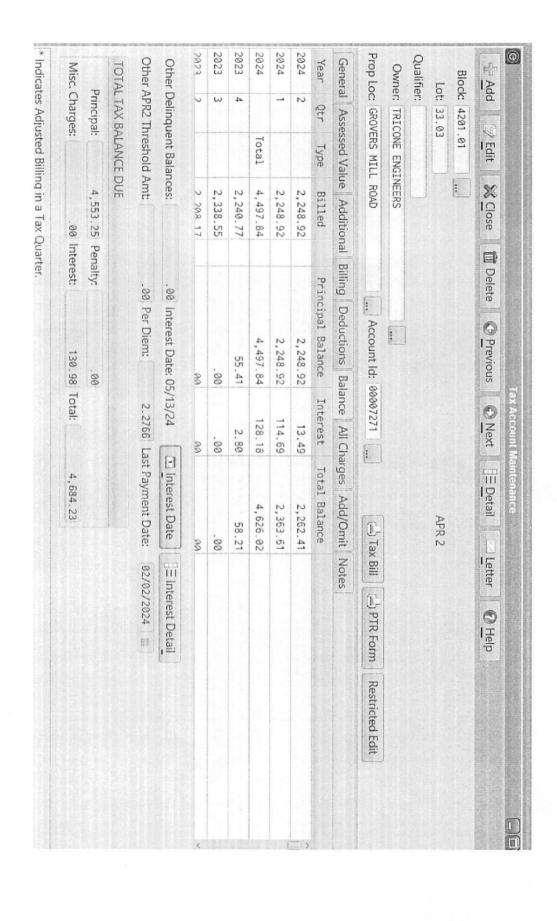
องเรียกหนึ่ง รูสาที่เอียง และ พุวสายอุทั่งกับและของกรุง สุดเกรเทาจะ ความ สมัย ข้องกุล ความกลุก ความกลุก

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TOWNSHIP OF LAWRENCE

Edward Tencza, Fire Marshal

Department of Public Safety

TO:

Zoning/Planning Board

FROM:

Edward Tencza

SUBJECT:

Tricone Engineers Inc. Grovers Mill Residences, Grovers Mill Rd, Lawrence NJ

DATE:

July 3, 2024

After review of proposed site plan for Grovers Mill Residences, Grovers Mill Rd, Lawrence NJ Block 4201.01, Lot 33.03

The following items of concern.

1. Relocation of fire hydrants on property and install additional fire hydrant, as indicated on provided drawing.

Hydrant # 1 location at entrance of property closest to Grovers Mill Road off mall access road near Building "F"

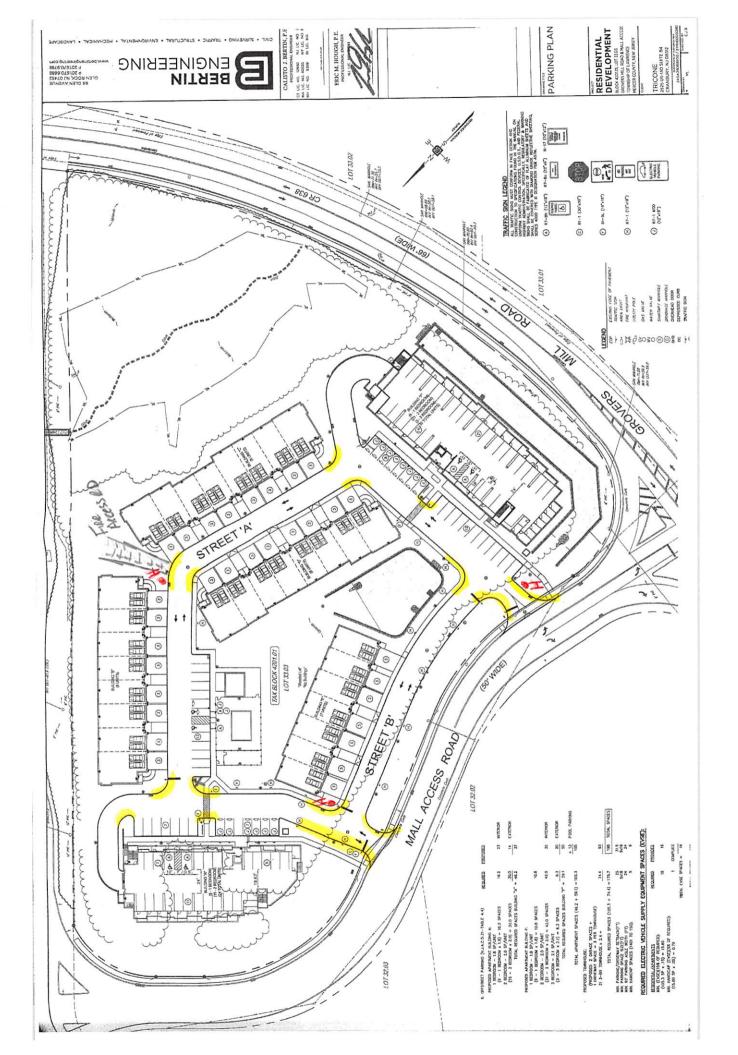
Hydrant # 2 location between Buildings "C" & "D" on Street "A"

Hydrant # 3 location at 2nd entrance closest to QuakerBridge Mall at the corner of Street "A" & "B" near Building "E"

- 2. Fire Access road to Lawrence Township specifications between Buildings "C" & "D" for Ladder Tower access to rear of Buildings "C" & "D" with curb cut.
- 3. Fire Lane Markings and proper "NO PARKING FIRE LANE" signs to be installed in areas indicated in highlighter on provided drawing.

Edward C. Tencza

Fire Marshal





To:

Lawrence Township Planning Board

From:

Environmental and Green Advisory Committee (EGAC)

Date:

July 15, 2024

Re:

Tricone, Grovers Mill Rd, B4201.01 L Preliminary and Final Application

Per the legal authority and responsibility of the Lawrence Township Environmental and Green Advisory Committee (EGAC), we have reviewed the application materials provided to the Committee by the Township of Lawrence.

SUMMARY

There are some Variances and Design Waivers requested that are impactful on the environment.

Clear-cutting of 585 trees to be removed including mature, native Red Maple, Oak, and Cherry, and replaced with 113 various nursery stock. *

Sustainable Design Assessment

- The required Sustainable Design Assessment has not been included. Climate Change, including extreme weather such as heat, is impacting residents and the township. Per the NJ Energy Master Plan, the Lawrence Township Community Energy Plan, and the Township Master Plan, high-performance buildings are needed. Please be specific regarding how the development contributes to achieving Net Zero Goals as well as the principles of shading, daylighting and solar gain, efficient water heating and distribution, moisture management in assemblies, and building orientation to create durable, high-performance buildings. "The Sustainable Design Assessment shall include life-cycle costs analysis as appropriate which compares the proposed development to best available practice...".
- The loss of the basal tree area is a loss of carbon sequestration and CO2 removal. How can the design be improved to mitigate this community and environmental impact?
- Lot orientation. "The buildable area of lots shall be oriented so that an imaginary line running perpendicular from the long axis of the buildable area will point within 30° of true south."

Wetlands

- Building C is in the Wetland fill area and 10' away from the buffer. During construction, how will the buffer be protected? In practice, this is unlikely to be achieved as the contractor needs space to regrade, dig 10' beyond wall installation, deposit soil, etc.
- In building C most units do not have the 200 sq ft backyard without going into the buffer. All the back doors of the building face the wetlands-how will the wetlands be protected from expanding use?
- Pets in wetlands are detrimental to wildlife, especially amphibians and birds. How to keep them out?

Landscaping

- Vinca Minor and Spirea are invasive species and cannot be used.
- Replace non-native and hybrids and choose native, nonhybrid, keystone species.
- Increase basal tree area. Clearcutting over 500 mature trees has a multitude of environmental impacts from loss of habitat and pollinators, loss of stormwater management and storage, the release of sequestered carbon, CO2 capture, etc.
- Plant more densely to minimize the need for inputs (water, fertilizer, etc.).
- How can the buildings be oriented and trees be provided to address: §525 212 Landscaping shall be located to provide effective climatic control. The east and west walls of a building should be the most heavily vegetated to shade for summer sun and the north to northwest area for winter prevailing winds. The southerly-facing side of a building should be shaded from the summer sun but open for solar gain during the winter.
- Is the minimum of 30% open space met? Are easements, buffers, wetlands, and basins included or not when calculating percentage?

Wildlife

- A search using Information for Planning and Consultation indicates Federally protected species including the Northern Long-eared, Indiana, and Tricolored Bats and migratory birds may be on the site, as well as the Cooper's Hawk breeding that was identified in the Environmental Impact Statement. How will this be addressed?
- Box turtles and other wildlife will be pushed out of the area. Can road crossings or curbs be made safer for road crossings?

Stormwater

- Confirm current precipitation is used in the calculation.
- What about future precipitation?
- Stormwater management for the adjacent mall and care dealer was designed for outdated precipitation volume and patterns. How will this impact this development and how will this new development contribute to a cumulative impact, especially at Grovers Mill Road?
- No stormwater management facility, including basins, shall be located within a required landscape buffer. Does the design comply?
- Backwater impacts from the filling of the basin shall also be considered in the design of the facility. Seems the basement next to Basin 2 may flood, an environmental and safety concern.
- Seems water seepage may be an issue in building C, how to prevent?
- Are backyards (and decks?) included in "lawn" C values stormwater calculations? They will likely not function as fresh lawns but more like hard patios, what is the impact?
- Development, including infiltration basins, is within the Slope Easement, is this allowed?

Water Ouality

The development is in the *headwaters*, particularly important for water quality.

- Can water quality percentage be increased? Anything less than 100% further impacts an already impaired watershed.
- Plant densely, use Integrated Pest Management, etc. to avoid the need for fertilizer and pesticides. Include in Maintenance and Landscaping Manual and Plans.

- Prohibit washing of cars in the development.
- Maintain strict oversight and enforcement of standards throughout construction.

Lighting

Some of the lighting is omnidirectional. Choose **fully shielded**, on only when necessary. Light pollution is an issue, especially near wetlands as there is a detrimental effect on insects, birds, other wildlife, and people. Thank you for the choice of CCT 3000K.

Public Transportation

Will a Bus stop and a school Bus stop be added in/at the development? Otherwise, challenging to access.

Mall Access

Can pedestrian or bike access from the development to the mall across Mall Loop Road be added?

*Estimated Environmental Benefits over 20 years comparing single mature Oak and Red Maple versus Nursery Stock. Tree species and size taken from Forestry and Landscaping Plan. To understand the total environmental impact, multiply by the number of trees removed and compare to the multiple trees to be replaced. These are estimates using the Tree Benefits model and only estimates for conceptual understanding.

	Oak	Red Maple	Eastern Redbud	Juniper
carbon sequestration				
(lbs.)	588.66	950.62	116.19	267.95
CO2 removed (lbs.)	2,158.42	3,485.60	428.67	982.47
Runoff avoided (gal)	2,993.95	1,831.53	435.24	245.04
Runoff intercepted (gal)	27,734.95	16,966.22	4,031.79	2,269.90
Carbon Monoxide (oz)	6.72	4.11	0.98	0.58
Oxone (oz)	263.26	199.40	24.11	28.02
Nitrous Oxide (oz)	27.23	21.51	2.28	4.44
Sulfur Dioxide (oz)	4.97	3.72	0.47	0.63
PM (oz)	10.64	9.90	0.63	1.52